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WARSIM Functionality at IOC to Support Stability And Support Operations and Information Operations

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Topics

- **Ground Truth**
- **IOC Functionality Related to SASO**
- **IOC Functionality Related to IO**

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SASO and IO in WARSIM at IOC

- **Ground Truth:**
  - WARSIM is primarily a conventional constructive model with limited SASO capabilities. SASO and IO are not specifically being built into WARSIM for IOC.
  - There are features being built into the IOC system that can be used to support SASO and IO. They are a significant improvement over legacy systems.
  - This presentation describes some of those features and their potential usage.

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Important WARSIM SASO Features

- **Non-Combatants**
- **Civil Affairs/PSYOPS**
- **Variable ROE**
- **Multiple Forces**
- **Improved Representation Level**
  - Individual platforms can be created and controlled
  - For example, a terrorist cell, a car bomb
- **Data Driven Models**

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Non-Combatants - SASO

- **Actions of military units affect non-combatant cooperation level:**
  - Giving food and water
  - Applying PSYOPS
- **Based on level of cooperation, Non-Combatants:**
  - will interfere more or less (cause congestion)
  - will give more or less HUMINT
  - can be ”turned” to combatants (Senior Control)
- **CSS**
  - Non-Combatants can stress the logistics chain
    - Supply - Food and Water consumption
    - Medical:
      - Non-Combatants can be wounded and suffer Disease Non-Battle Injury (DNBI)
      - Non-Combatants can be treated by medical units/facilities

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Civil Affairs/PSYOPS - SASO

- **CA/PSYOP effects:**
  - Factored in through Battle Outcome Adjudicator (BOA)
    - WARSIM version of CBS's COBRA
    - Factored into Morale
    - Factored into Cooperation Level
  - Ultimately impacts:
    - Time to perform tasks
    - Movement speed
    - Probability of hit
    - Fraction of fire
      - Amount of fire that can be applied to an engagement over time
    - Information/knowledge (Perceived Truth) shared
    - For all forces/sides (BLUFOR, OPFOR, Neutral, and Non-Combatants)

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Variable ROE - SASO

- **Units have ROE that can be set by the controller. ROEs for simulated units are more limited than 'real world', generally include the following controls:**
  - Weapon Control Status:
    - Stop = don't fire under any circumstances
    - Hold= fire only when fired upon
    - Tight = fire at only identified enemy targets
    - Free = fire at anything not identified as friendly
  - Target Priority List - Designates a target type by general functionality such as Armor, Field Artillery, Engineer, Command and Control, etc. A target type not specified will not be engaged.
  - Engagement Area - Specify an area to control when engagements will begin (i.e., when 5 targets are within the engagement area).
  - Engage Sector - Specify an angular "fan" that will allow distribution of fires. Engagement Sectors can exist without Engagement Areas, but Engagement Areas shouldn't exist without specifying Engagement Sectors.
  - Fire Restricted Area - Specify an area where no engagements will occur.
  - Fire Threshold - Specify a minimum probability of hit that it wants for any available weapons within the unit before the engagement can begin.
  - Enemy Force Type - Specify by force type (up to 10) which targets may be engaged.
  - In addition there are some engagements that aren't possible. For example, "medical units" are "never engaged".

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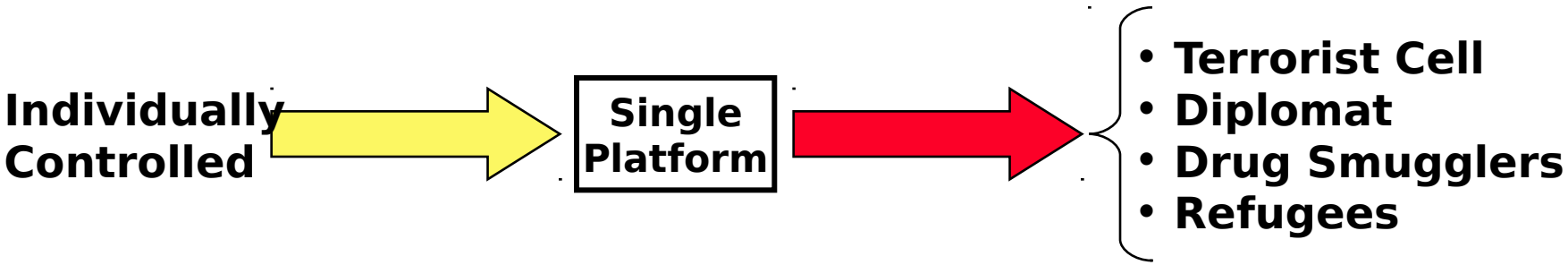
Level of Representation - SASO



- **A controller can individually control a vehicle or a squad of soldiers**
- **The WARSIM aggregate algorithms continue to operate at this level**
  - Attrition will still yield a reasonable result

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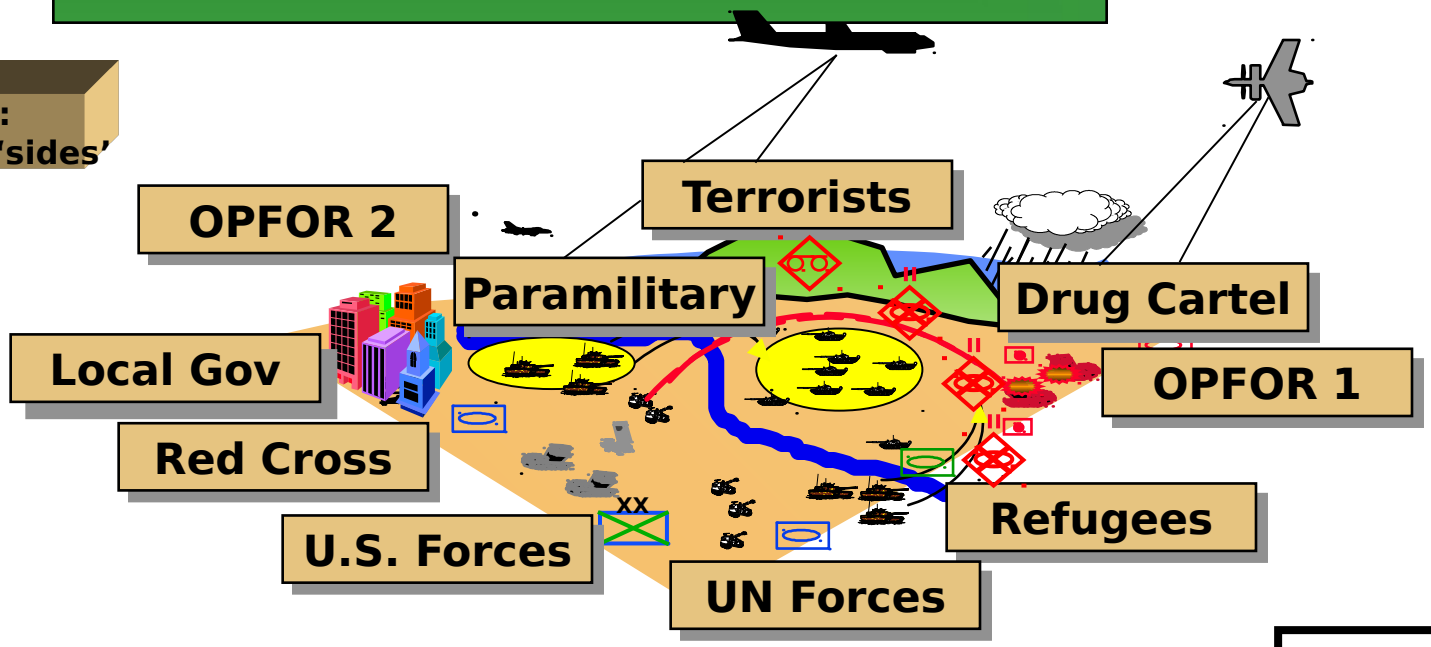
Operational Facets

FORCE TYPE:
10 forces, varied 'sides'



BLUFOR

OPFOR

NON-ALIGNED

DOCTRINE

Non-Combatants
Civil Affairs/PSYOP
Variable Weapons Constraints
Weapon Control Status
Target Priority List
Engagement Areas

FORCE ORIENTATION

Variable, per action(s) of the unit(s)

FRIENDLY

HOSTILE

NEUTRAL

Supports Wide Range of Operations

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Important WARSIM IO Features

- **RISTA Assets**
- **Comms degradation (system parameters, destruction)**
- **Non-Combatants**
- **EPW**
- **Civil Affairs/PSYOPS**
- **Variable ROE**
- **Multiple Forces**
- **Improved Representation Level**
  - Individual platforms can be created and controlled
  - For example, decoy platform(s)
- **Data Driven Models**

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Non-Combatants - IO

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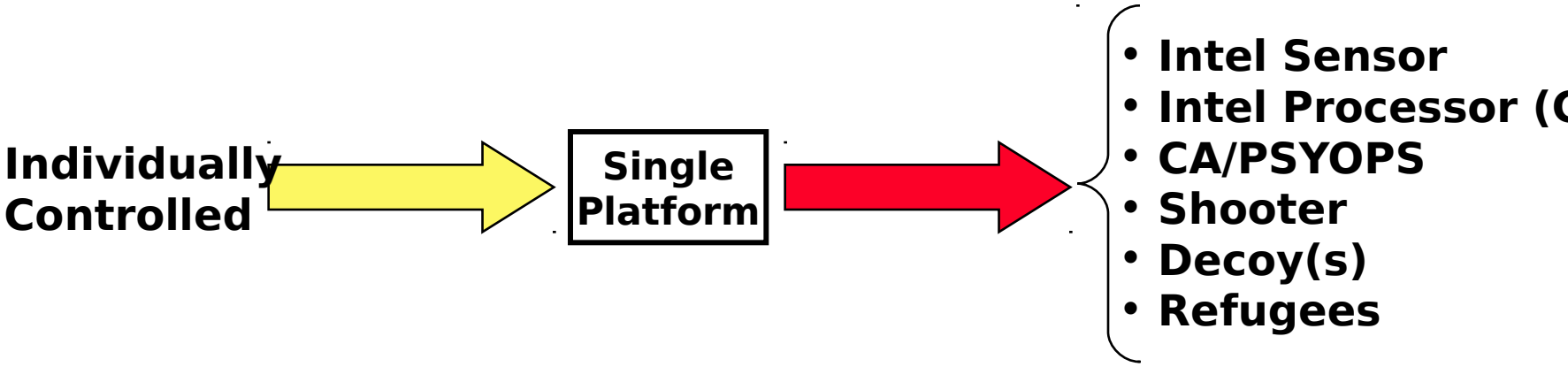
Level of Representation - IO



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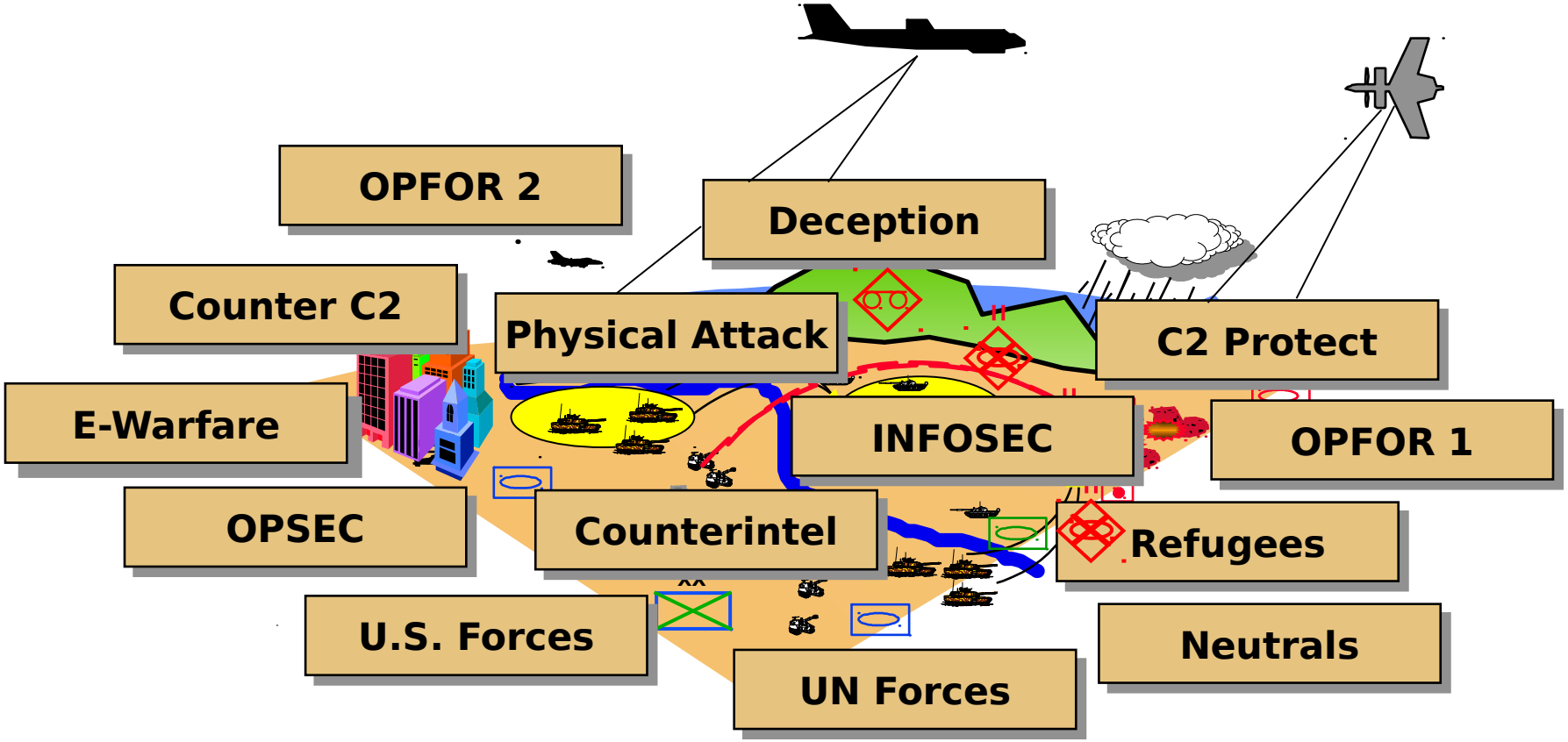
Operational Facets



Supports Wide Range of Operations

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Conclusion

- **SASO/IO are not being specifically addressed in WARSIM at IOC**
- **However, features exist in the WARSIM IOC system that will support SASO/IO:**
  - Non-Combatants
  - Civil Affairs/PSYOPS
  - Variable ROE
  - Multiple Sides
  - Improved Representation Level
  - Data Driven Models
- **These features represent significant improvements over the legacy systems**
- **Additional functionality to support 'full range' SASO/IO training is in Version 1.2; training will be supported at IOC, amount of 'work-around' is variable**